

WHAT IS CLAIMED IS:

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1. A service offering apparatus for offering services associated with objects, comprising:
  - authentication information acquisition request receiving means for receiving an acquisition request for requesting an acquisition of authentication information used for establishing a session having a limited right with respect to said service offering apparatus and said objects;
  - authentication information transmitting means for transmitting the authentication information; and
  - session start request receiving means for receiving a start request for requesting a start of the session containing the authentication information from a client different from an end to which the authentication information is transmitted.

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2. The service offering apparatus as claimed  
in claim 1, wherein the acquisition request of the  
authentication request contains a list of object  
identifiers for identifying said objects and a list of  
5 service identifiers for identifying services associated  
with said objects.

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3. The service offering apparatus as claimed  
in claim 1, further comprising authentication  
information producing means for producing the  
authentication information in response to the  
15 acquisition request of the authentication information.

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4. The service offering apparatus as claimed  
in claim 1, further comprising authentication  
information managing means for managing the  
authentication information.

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5. The service offering apparatus as claimed  
in claim 4, wherein said authentication information  
managing means manages the authentication information by  
relating with the list of the object identifiers for  
5 identifying said objects and the list of the service  
identifiers for identifying the services associated with  
said objects.

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6. The service offering apparatus as claimed  
in claim 1, further comprising session producing means  
for producing the session in response to the start  
15 request of the session.

20 7. The service offering apparatus as claimed  
in claim 1, further comprising session managing means  
for managing the session.

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8. The service offering apparatus as claimed in claim 7, wherein said session managing means manages the session by relating with the authentication information.

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9. The service offering apparatus as claimed 10 in claim 1, further comprising session identifier transmitting means for transmitting a session identifier for identifying the session to said client.

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10. The service offering apparatus as claimed in claim 1, further comprising use request receiving means for receiving a use request for requesting a use 20 of a service associated with said objects from said client, the use request including a session identifier for identifying the session.

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11. The service offering apparatus as claimed in claim 1, further comprising service offering means for offering a service associated with said objects in response to a use request for requesting a use of a 5 service associated with said objects from said client, the use request including a session identifier for identifying the session.

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12. The service offering apparatus as claimed in claim 1, wherein the service associated with said objects which is offered in the session is designated.

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13. A service offering method for offering services associated with objects, comprising:  
20 an authentication information acquisition request receiving step of receiving an acquisition request for requesting an acquisition of authentication information used for establishing a session having a 25 limited right with respect to said service offering

apparatus and said objects;

an authentication information transmitting  
step of transmitting the authentication information; and  
a session start request receiving step of  
5 receiving a start request for requesting a start of the  
session containing the authentication information from a  
client different from an end to which the authentication  
information is transmitted.

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14. The service offering method as claimed in  
claim 13, wherein the acquisition request of the  
15 authentication request contains a list of object  
identifiers for identifying said objects and a list of  
service identifiers for identifying services associated  
with said objects.

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15. The service offering method as claimed in  
claim 13, further comprising an authentication  
25 information producing step of producing the

authentication information in response to the acquisition request of the authentication information.

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16. The service offering method as claimed in  
claim 13, further comprising an authentication  
information managing step of managing the authentication  
10 information.

15 17. The service offering method as claimed in  
claim 16, wherein said authentication information  
managing step manages the authentication information by  
relating with the list of the object identifiers for  
identifying said objects and the list of the service  
20 identifiers for identifying the services associated with  
said objects.

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18. The service offering method as claimed in  
claim 13, further comprising a session producing step of  
producing the session in response to the start request  
of the session.

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19. The service offering method as claimed in  
10 claim 13, further comprising a session managing step of  
managing the session.

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20. The service offering method as claimed in  
claim 19, wherein said session managing step manages the  
session by relating with the authentication information.

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21. The service offering method as claimed in  
claim 13, further comprising a session identifier  
25 transmitting step of transmitting a session identifier

for identifying the session to said client.

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22. The service offering method as claimed in  
claim 13, further comprising a use request receiving  
step of receiving a use request for requesting a use of  
a service associated with said objects from said client,  
10 the use request including a session identifier for  
identifying the session.

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23. The service offering method as claimed in  
claim 13, further comprising a service offering step of  
offering a service associated with said objects in  
response to a use request for requesting a use of a  
20 service associated with said objects from said client,  
the use request including a session identifier for  
identifying the session.

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24. The service offering method as claimed in claim 13, wherein the service associated with said objects which is offered in the session is designated.

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25. A processor readable medium storing a service offering program for causing a computer to 10 execute a service offering method for offering services associated with objects, the service offering method comprising:

an authentication information acquisition request receiving step of receiving an acquisition 15 request for requesting an acquisition of authentication information used for establishing a session having a limited right with respect to said service offering apparatus and said objects;

an authentication information transmitting 20 step of transmitting the authentication information; and a session start request receiving step of receiving a start request for requesting a start of the session containing the authentication information from a client different from an end to which the authentication 25 information is transmitted.

26. The processor readable medium as claimed  
in claim 25, wherein the acquisition request of the  
authentication request contains a list of object  
identifiers for identifying said objects and a list of  
5 service identifiers for identifying services associated  
with said objects.

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27. The processor readable medium as claimed  
in claim 25, wherein the service offering method further  
comprises an authentication information producing step  
of producing the authentication information in response  
15 to the acquisition request of the authentication  
information.

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28. The processor readable medium as claimed  
in claim 25, wherein the service offering method further  
comprises an authentication information managing step of  
managing the authentication information.

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29. The processor readable medium as claimed  
in claim 28, wherein said authentication information  
managing step manages the authentication information by  
relating with the list of the object identifiers for  
5 identifying said objects and the list of the service  
identifiers for identifying the services associated with  
said objects.

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30. The processor readable medium as claimed  
in claim 25, wherein the service offering method further  
comprises a session producing step of producing the  
15 session in response to the start request of the session.

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31. The processor readable medium as claimed  
in claim 25, wherein the service offering method further  
comprises a session managing step of managing the  
session.

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32. The processor readable medium as claimed in claim 31, wherein said session managing step manages the session by relating with the authentication information.

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33. The processor readable medium as claimed 10 in claim 25, wherein the service offering method further comprises a session identifier transmitting step of transmitting a session identifier for identifying the session to said client.

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34. The processor readable medium as claimed in claim 25, wherein the service offering method further 20 comprises a use request receiving step of receiving a use request for requesting a use of a service associated with said objects from said client, the use request including a session identifier for identifying the session.

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35. The processor readable medium as claimed  
in claim 25, wherein the service offering method further  
comprises a service offering step of offering a service  
associated with said objects in response to a use  
5 request for requesting a use of a service associated  
with said objects from said client, the use request  
including a session identifier for identifying the  
session.

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36. The processor readable medium as claimed  
in claim 25, wherein the service associated with said  
15 objects which is offered in the session is designated.

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37. A service offering program for causing a  
computer to execute a service offering method for  
offering services associated with objects, the service  
offering method comprising:

an authentication information acquisition  
25 request receiving step of receiving an acquisition

request for requesting an acquisition of authentication information used for establishing a session having a limited right with respect to said service offering apparatus and said objects;

5                   an authentication information transmitting step of transmitting the authentication information; and  
                          a session start request receiving step of receiving a start request for requesting a start of the session containing the authentication information from a  
10                  client different from an end to which the authentication information is transmitted.

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38. The service offering program as claimed in claim 37, wherein the acquisition request of the authentication request contains a list of object identifiers for identifying said objects and a list of 20 service identifiers for identifying services associated with said objects.

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39. The service offering program as claimed  
in claim 37, wherein the service offering method further  
comprises an authentication information producing step  
of producing the authentication information in response  
5 to the acquisition request of the authentication  
information.

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40. The service offering program as claimed  
in claim 37, wherein the service offering method further  
comprises an authentication information managing step of  
managing the authentication information.

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41. The service offering program as claimed  
20 in claim 40, wherein said authentication information  
managing step manages the authentication information by  
relating with the list of the object identifiers for  
identifying said objects and the list of the service  
identifiers for identifying the services associated with  
25 said objects.

42. The service offering program as claimed  
in claim 37, wherein the service offering method further  
comprises a session producing step of producing the  
session in response to the start request of the session.

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43. The service offering program as claimed  
10 in claim 37, wherein the service offering method further  
comprises a session managing step of managing the  
session.

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44. The service offering program as claimed  
in claim 43, wherein said session managing step manages  
the session by relating with the authentication  
20 information.

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45. The service offering program as claimed  
in claim 37, wherein the service offering method further  
comprises a session identifier transmitting step of  
transmitting a session identifier for identifying the  
5 session to said client.

10 46. The service offering program as claimed  
in claim 37, wherein the service offering method further  
comprises a use request receiving step of receiving a  
use request for requesting a use of a service associated  
with said objects from said client, the use request  
15 including a session identifier for identifying the  
session.

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47. The service offering program as claimed  
in claim 37, wherein the service offering method further  
comprises a service offering step of offering a service  
associated with said objects in response to a use  
25 request for requesting a use of a service associated

with said objects from said client, the use request including a session identifier for identifying the session.

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48. The service offering program as claimed in claim 37, wherein the service associated with said 10 objects which is offered in the session is designated.

15 49. A service offering apparatus for offering services associated with objects, comprising:

session start request receiving means for receiving a start request for requesting a start of a session with the service offering apparatus;

20 session identifier transmitting means for transmitting a session identifier for identifying the session; and

use request receiving means for receiving a use request for requesting a use of a service associated 25 with said objects from a client different from an end to

which the session identifier is transmitted, the use request including information regarding the session identifier.

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50. The service offering apparatus as claimed in claim 49, further comprising session producing means 10 for producing the session in response to the start request of the session.

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51. The service offering apparatus as claimed in claim 49, further comprising session managing means for managing the session.

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52. The service offering apparatus as claimed in claim 49, further comprising service offering means 25 for offering the service associated with said objects in

response to use request of the service associated with said objects, the use request containing the information regarding the session identifier.

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53. The service offering apparatus as claimed in claim 49, wherein the information regarding the 10 session identifier includes the session identifier and an object identifier for identifying said objects.

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54. The service offering apparatus as claimed in claim 49, wherein the information regarding the session identifier includes the session identifier and a service identifier for identifying a service associated 20 with said objects.

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55. The service offering apparatus as claimed in claim 49, wherein the information regarding the session identifier is encrypted by a public key.

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56. The service offering apparatus as claimed in claim 49, further comprising public key providing  
10 means for providing a public key in response to an acquisition request for requesting an acquisition of the public key.

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57. The service offering apparatus as claimed in claim 49, wherein the information regarding the session identifier is encrypted by a common key common  
20 to the service offering apparatus.

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58. The service offering apparatus as claimed in claim 49, further comprising session identifier processing means for processing the session identifier.

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59. The service offering apparatus as claimed in claim 58, further comprising encrypting means for encrypting the session identifier processed by said session identifier processing means.

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60. A service offering method for offering services associated with objects, comprising:  
a step of receiving a start request for requesting a start of a session with the service offering apparatus;

a step of transmitting a session identifier for identifying the session; and

a step of receiving a use request for requesting a use of a service associated with said objects from a client different from an end to which the

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session identifier is transmitted, the use request including information regarding the session identifier.

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61. The service offering method as claimed in claim 60, further comprising a step of producing the session in response to the start request of the session.

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62. The service offering method as claimed in 15 claim 60, further comprising a step of managing the session.

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63. The service offering method as claimed in claim 60, further comprising a step of offering the service associated with said objects in response to use request of the service associated with said objects, the 25 use request containing the information regarding the

session identifier.

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64. The service offering method as claimed in  
claim 60, wherein the information regarding the session  
identifier includes the session identifier and an object  
identifier for identifying said objects.

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65. The service offering method as claimed in  
15 claim 60, wherein the information regarding the session  
identifier includes the session identifier and a service  
identifier for identifying a service associated with  
said objects.

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66. The service offering method as claimed in  
claim 60, wherein the information regarding the session  
25 identifier is encrypted by a public key.

67. The service offering method as claimed in  
claim 60, further comprising a step of providing a  
public key in response to an acquisition request for  
requesting an acquisition of the public key.

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68. The service offering method as claimed in  
10 claim 60, wherein the information regarding the session  
identifier is encrypted by a common key common to the  
service offering apparatus.

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69. The service offering method as claimed in  
claim 60, further comprising a step of processing the  
session identifier.

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70. The service offering method as claimed in  
25 claim 69, further comprising a step of encrypting the

session identifier processed by said session identifier processing means.

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71. A processor readable medium storing a service offering program for causing a computer to execute a service offering method for offering services 10 associated with objects, the service offering method comprising:

a step of receiving a start request for requesting a start of a session with the service offering apparatus;

15 a step of transmitting a session identifier for identifying the session; and

a step of receiving a use request for requesting a use of a service associated with said objects from a client different from an end to which the 20 session identifier is transmitted, the use request including information regarding the session identifier.

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72. The processor readable medium as claimed  
in claim 71, wherein the service offering method further  
comprises a step of producing the session in response to  
the start request of the session.

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73. The processor readable medium as claimed  
10 in claim 71, wherein the service offering method further  
comprises a step of managing the session.

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74. The processor readable medium as claimed  
in claim 71, wherein the service offering method further  
comprises a step of offering the service associated with  
said objects in response to use request of the service  
20 associated with said objects, the use request containing  
the information regarding the session identifier.

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75. The processor readable medium as claimed  
in claim 71, wherein the information regarding the  
session identifier includes the session identifier and  
an object identifier for identifying said objects.

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76. The processor readable medium as claimed  
10 in claim 71, wherein the information regarding the  
session identifier includes the session identifier and a  
service identifier for identifying a service associated  
with said objects.

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77. The processor readable medium as claimed  
in claim 71, wherein the information regarding the  
20 session identifier is encrypted by a public key.

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78. The processor readable medium as claimed  
in claim 71, the service offering method further  
comprises a step of providing a public key in response  
to an acquisition request for requesting an acquisition  
5 of the public key.

10 79. The processor readable medium as claimed  
in claim 71, wherein the information regarding the  
session identifier is encrypted by a common key common  
to the service offering apparatus.

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80. The processor readable medium as claimed  
in claim 71, wherein the service offering method further  
20 comprises a step of processing the session identifier.

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81. The processor readable medium as claimed in claim 80, wherein the service offering method further comprises a step of encrypting the session identifier processed by said session identifier processing means.

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82. A service offering program for causing a computer to execute a service offering method for offering services associated with objects, the service offering method comprising:

10 a step of receiving a start request for requesting a start of a session with the service offering apparatus;

15 a step of transmitting a session identifier for identifying the session; and

20 a step of receiving a use request for requesting a use of a service associated with said objects from a client different from an end to which the session identifier is transmitted, the use request including information regarding the session identifier.

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83. The service offering program as claimed  
in claim 82, wherein the service offering method further  
comprises a step of producing the session in response to  
the start request of the session.

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84. The service offering program as claimed  
10 in claim 82, wherein the service offering method further  
comprises a step of managing the session.

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85. The service offering program as claimed  
in claim 82, wherein the service offering method further  
comprises a step of offering the service associated with  
said objects in response to use request of the service  
20 associated with said objects, the use request containing  
the information regarding the session identifier.

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86. The service offering program as claimed  
in claim 82, wherein the information regarding the  
session identifier includes the session identifier and  
an object identifier for identifying said objects.

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87. The service offering program as claimed  
10 in claim 82, wherein the information regarding the  
session identifier includes the session identifier and a  
service identifier for identifying a service associated  
with said objects.

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88. The service offering program as claimed  
in claim 82, wherein the information regarding the  
20 session identifier is encrypted by a public key.

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89. The service offering program as claimed  
in claim 82, the service offering method further  
comprises a step of providing a public key in response  
to an acquisition request for requesting an acquisition  
5 of the public key.

10 90. The service offering program as claimed  
in claim 82, wherein the information regarding the  
session identifier is encrypted by a common key common  
to the service offering apparatus.

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91. The service offering program as claimed  
in claim 82, wherein the service offering method further  
20 comprises a step of processing the session identifier.

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92. The service offering program as claimed  
in claim 91, wherein the service offering method further  
comprises a step of encrypting the session identifier  
processed by said session identifier processing means.

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